Claims

WO 2005/040891

- 1. A viewing device including first and second viewing passages, each passage having a main body and an eyepiece assembly at one end thereof, said passages and/or eyepiece assemblies selectively movable to allow positional adjustment to suit the interocular distance of the user and characterised in that said viewing device includes at least one imaging device to allow the selective capture and/or storage of data representing the images viewable through the first and/or second passages.
- 2. A viewing device according to claim 1 characterised in that said at least one imaging device is positioned to receive light in an axis perpendicular to said pivot axis.
- 3. A viewing device according to claim 2 characterised in that said viewing device includes one or more reflective surfaces for guiding light from a viewing passage to an eyepiece assembly and/or said at least one imaging device.
- 4. A viewing device according to claim 3 characterised in that the reflective surfaces are adjustable to allow user selection of the path of the light between the eyepiece assembly and imaging device.
- 5. A viewing device according to claim 1 characterised in that the main bodies of the first and second viewing passages are provided as a single unit.
- 6. A viewing device according to claim 1 characterised in that said at least one imaging device is fixedly positioned with respect to the main bodies of the first and/or second viewing passages.

- 7. A viewing device according to claim 1 characterised in that said viewing device includes one or more displays to display the captured images.
- 8. A viewing device according to claim 1 characterised in that said viewing device includes one or more reflective surfaces for guiding light through the main body of each viewing passage to the eyepiece assemblies and/or said at least one imaging device.
- 9. A viewing device according to claim 8 characterised in that said one or more reflective surfaces are in the form of a series of relatively angularly disposed mirrors, beam splitters and/or prisms.
- 10. A viewing device according to claim 8 characterised in that said one or more reflective surfaces are mounted in the fixed part of each viewing passage and/or the relatively movable eyepiece part.
- 11. A viewing device according to claim 8 characterised in that one of the viewing passages will become blank to the eye looking through that passage while the image data for the view through that passage is captured as the object light falls onto the imaging device.
- 12. A viewing device according to claim 8 characterised in that one or more of said reflective surfaces is movable to guide light to the imaging device and/or the eyepiece assembly.
- 13. A viewing device according to claim 1 characterised in that the viewing device is provided with actuation means to allow the imaging device to capture images and/or video.

- 14. A viewing device according to claim 13 characterised in that the actuation means firstly moves any combination of mirrors, prisms and/or lenses from a first position to a second position, and secondly initiates capture.
- 15. A viewing device according to claim 14 characterised in that the mirrors, prisms and/or lenses move back to the first position when the actuation means is released.
- 16. A viewing device including first and second viewing passages, each passage having a main body and an eyepiece assembly at one end thereof, said eyepiece assemblies selectively movable relative to their main body to allow positional adjustment to suit the interocular distance of the user, at least one viewing passage including at least one imaging device to allow the selective capture and/or storage of data representing the images viewable through the first and/or second passages and characterised in that the eyepiece assemblies are adjustable independently of their respective main bodies of the first and second viewing passages and the at least one imaging device.
- 17. A viewing device including first and second viewing passages, each viewing passage having an eyepiece assembly at one end thereof, said first and second viewing passages adjustable with respect to one another to allow the interocular spacing between the eyepiece assemblies to be adjusted to suit user requirements, said viewing device including at least one imaging device for capturing the images from the first and/or second viewing passages and characterised in that the device includes a detection means for detecting the relative angles of orientation of the first and second viewing passages, and control means for said at

WO 2005/040891 PCT/GB2004/004365

least one imaging device which receives an electronic signal indicative of the orientation which is detected.

19

- 18. A viewing device according to claim 17 characterised in that the control means for said at least one imaging device receives the signal and adjusts the orientation of the images and/or said at least one imaging device.
- 19. A viewing device according to claim 18 characterised in that the orientation is adjusted to ensure the images and/or said at least one imaging device remain in substantial alignment with a horizontal or other predetermined or user-selectable plane.
- 20. A viewing device according to claim 19 characterised in that the control means includes any or any combination of gearing arrangements, electric motors, and/or the like.
- 21. A viewing device according to any preceding claim characterised in that the viewing device includes a reset or adjustment function to return the first and second viewing passages and/or imaging devices and/or components thereof to a predetermined position.
- 22. A viewing device in the form of a set of binoculars including first and second viewing passages connected by two or more pivoting joints, and imaging devices mounted in or on the binoculars, characterised in that movement of the passages for interocular spacing adjustment results in no change to the orientation of the imaging devices.
- 23. A viewing device including first and second viewing passages, each viewing passage or component thereof selectively movable around a pivot axis to allow positional

WO 2005/040891 PCT/GB2004/004365

20

adjustment to suit the interocular distance of the user, and including at least one imaging device to allow the selective capture and/or storage of data representing the images viewable through the first and/or second passages, characterised in that said at least one imaging device is positioned to receive light in an axis perpendicular to said pivot axis.